

REMARKS

In the Final Office Action, the Examiner rejected claims 1-10, 12, 13, and 47-78. By this paper, Applicants cancelled claim 70. Upon entry of this amendment, claims 1-10, 12, 13, 47-69, and 71-78 will be pending in the present application and are believed to be in condition for allowance. In view of the foregoing amendment and following remarks, Applicants respectfully request reconsideration and allowance of all pending claims.

Objection to the Drawings

In the Final Office Action, the Examiner objected to the drawings under 37 C.F.R. § 1.83(a) because they fail to show the bilinear flow characteristics as described in the specification on page 32. Applicants respectfully traverse this objection. Contrary to the Examiner's contention, a curved portion of a valve plug can give a linear flow characteristic. Indeed, valve plugs are typically curved in globe or plug valves having a linear flow characteristic. *See* Final Office Action, page 2. For the convenience of the Examiner, Applicants have attached a printout of a page showing a typical curved valve plug which provides for a linear flow characteristic. (available at http://www.spiraxsarco.com/images/resources/steam-engineering-tutorials/6/5/fig6_5_01.gif). Applicants respectfully request the Examiner withdraw the objection to the drawings.

Claim Rejection under 35 U.S.C. § 112

In the Final Office Action, the Examiner rejected claim 70 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants acknowledge a typographical error with claim 70, and have cancelled claim 70. Therefore, the foregoing rejection is believed to be moot.

Claim Rejections under 35 U.S.C. § 103(a)

The Examiner rejected claims 1-8, 12, 13, 47-53, 54-58, 60-64, 67, 72, 74, 75, and 77 under 35 U.S.C. § 103(a) as being unpatentable over Hess et al., U.S. Patent No. 6,235,852 (hereinafter "Hess"), in view of Freisinger et al., U.S. Publication No. 2002/0053652 (hereinafter "Freisinger"); rejected claims 9, 10, 59, 65, 66, 76, and 78 under 35 U.S.C. § 103(a) as being unpatentable over Hess and Freisinger as applied to claims 1, 54, 63, and 69 above and further in view of Johnson et al., U.S. Patent No. 5,697,436 (hereinafter "Johnson"); and rejected claim 73 under 35 U.S.C. § 103(a) as being unpatentable over Hess and Freisinger as applied to claim 69 above and further in view of Wu et al., U.S. Patent No. 6,252,016 (hereinafter "Wu").

Legal Precedent

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). To establish a *prima facie* case, the Examiner must show that the combination includes *all* of

the claimed elements, *and* also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). The Examiner must provide objective evidence, rather than subjective belief and unknown authority, of the requisite motivation or suggestion to combine or modify the cited references. *In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). Further, the Supreme Court has recently stated that the obviousness analysis should be explicit. *See KSR Int'l Co. v. Teleflex, Inc.*, 82 U.S.P.Q.2d 1385 (U.S. 2007) (“[R]jections based on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”) (quoting *In re Kahn*, 441 F.3d 977,988 (Fed. Cir. 2006)).

Deficiencies of the Rejections

The present independent claims recite a valve having a *bilinear* flow characteristic. Contrary to the Examiner’s assertion, the secondary reference Fresinger does *not* disclose a valve having a bilinear flow characteristic, expressly or inherently. *See* Final Office Action, page 5. Further, even assuming Freisinger discloses a valve having a trilinear flow characteristic (which Applicants do not concede), the reference does *not* disclose an inherent bilinear flow characteristic, as alleged by the Examiner. The Examiner’s logic is analogous to asserting that a person who weighs 150 pounds inherently weighs only 100 pounds. Applicants believe all claims to be patentable over the cited combinations.

Further, there is no appropriate reason to modify Hess to incorporate a bilinear flow characteristic. Hess makes no mention of issues with low turn-down with the coolant valves, for example. Thus, for this additional reason, the present claims are patentable over the cited combinations.

Lastly, it should be noted that the secondary references cited by the Examiner do not obviate the deficiencies of Hess and Freisinger discussed above. For these reasons, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. § 103.

Conclusion

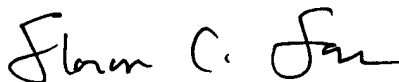
Applicants respectfully submit that all pending claims should be in condition for allowance. However, if the Examiner believes certain amendments are necessary to clarify the present claims or if the Examiner wishes to resolve any other issues by way of a telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Authorization for Extensions of Time and Payment of Fees

In accordance with 37 C.F.R. § 1.136, Applicants hereby provide a general authorization to treat this and any future reply requiring an extension of time as incorporating a request thereof. The Commissioner is authorized to charge fees for any extensions of time, or for any other reason needed to advance prosecution of the present application, to Deposit Account No. 06-1315; CPCM:0010.

Respectfully submitted,

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